

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/057,314	EGILSSON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Apu M Mofiz	2165	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/29/2004.
2. ☒ The allowed claim(s) is/are 1, 3-18.
3. ☒ The drawings filed on 01/15/2002 & 4/23/2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☒ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                  |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>2/3/2005</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment  |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                         |
|   | 9. <input type="checkbox"/> Other _____.   |

*Apu Mofiz*  
*Primary Examiner*  
*TC 2100*

**DETAILED ACTION**

1. Applicant's amendment and arguments filed October 24, 2004 have been fully considered and they are deemed to be persuasive.

**EXAMINER'S AMENDMENT**

2. Authorization for Examiner's Amendment to the amendment filed 10/24/2005 was given by Mary Lou Wakimura in a telephone interview on 02/03/2005.
3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
4. The application has been amended as follows:

Art Unit: 2165

**Amendments to the Claims**

Please cancel Claim 2. Please amend Claims 1, 8, 15 and 17. The Claim Listing below will replace all prior versions of the claims in the application:

**Claim Listing**

1. (Currently amended) A computer implemented system for editing a data cube with respect to a normal criterion, the criterion initially satisfied by some but not all dimension level combinations in said data cube, the system comprising:
  - a dimension structure modeling the data cube, the dimension structure including dimension levels of the data cube; and
  - means for editing the dimension structure of said data cube so that said normal criterion is satisfied by at least one additional dimension level combination, wherein the means for editing forms a modified data cube in which said criterion is satisfied by all the dimension level combinations of the modified data cube.
2. (Canceled)
3. (Original) The system of claim 1 further comprising:
  - a projection of said data cube; and
  - wherein the means for editing edits a dimension structure of the projection of said data cube and forms a modified projection in which said criterion is satisfied by all dimension level combinations from said modified projection.
4. (Previously presented) The system of claim 3 wherein the means for editing includes editing dimension structures so that one or more normal criterion associated with one or more projections of said data cube are satisfied by all dimension level combinations from said projections,
  - thereby allowing complex criteria, including inference control criteria required to enforce identity protection requirements for subjects of research studies, to be satisfied by the data cube.

5. (Original) The system of claim 1 wherein the data cube is realized as a star schema in an SQL relational database.
6. (Original) The system of claim 1 further including means for associating with the dimension structure of said data cube, an intensity function revealing intensity of patterns or structures in said data cube;  
wherein the means for editing utilizes said function in editing of said dimension structure, including enabling the editing process to avoid invalidating useful patterns and structures expressed by said data cube.
7. (Original) The system of claim 6 wherein said intensity function and said editing are used to rewrite the dimension structure of said data cube in order to express more clearly, to a user of the system, correlations existing in said data cube, such that discovery of hidden relationships expressed by the data cube is enabled.
8. (Currently amended) A computer implemented method for editing a data cube with respect to a normal criterion, the criterion initially satisfied by some but not all dimension level combinations in said data cube, comprising the steps of:  
providing a dimension structure modeling the data cube, the dimension structure having dimension levels of data of the data cube; and  
editing the dimension structure of said data cube so that said normal criterion is satisfied by at least one additional dimension level combination, wherein said editing forms a modified data cube in which said criterion is satisfied by all the dimension level combinations of the modified data cube.
9. (Original) The method of claim 8 wherein the step of editing further includes forming a modified data cube in which said criterion is satisfied by all the dimension level combinations of the modified data cube.

10. (Original) The method of claim 8 further comprising the step of providing a projection of said data cube, wherein the step of editing further includes (a) editing a dimension structure of the projection of said data cube, and (b) forming a modified projection in which said criterion is satisfied by all dimension level combinations from said modified projection.
11. (Original) The method of claim 10 wherein the step of editing includes editing dimension structures so that one or more normal criterion associated with one or more projections of said data cube are satisfied by all dimension level combinations from said projections, thereby allowing complex criteria, including inference control criteria required to enforce privacy requirements for subjects of research studies, to be satisfied by the data cube.
12. (Original) The method of claim 8 wherein the data cube is realized as a star schema in an SQL relational database.
13. (Original) The method of claim 8 further including:
  - associating with the dimension structure of said data cube, a function revealing intensity of patterns or structures in said data cube; and
  - using said function to direct said editing of said dimension structure, such that the step of editing avoids invalidating useful patterns and structures expressed by said data cube.
14. (Original) The method of claim 13 further comprising the step of using said function with said editing to rewrite the dimension structure of said data cube in order to express more clearly, to a user, correlations existing in said data cube in a manner enabling users to discover hidden relationships expressed by the data.
15. (Currently amended) A computer implemented system for editing a data cube with respect to a normal criterion, the criterion initially satisfied by some but not all dimension level combinations in said data cube, the system comprising:

a dimension structure of the data cube, the dimension structure including dimension levels of the data cube;

means for editing the dimension structure of said data cube so that said normal criterion is satisfied by at least one additional dimension level combination; and

means for associating with the dimension structure of said data cube, an intensity function revealing intensity of patterns or structures in said data cube;

wherein the means for editing utilizes said function in editing of said dimension structure, including enabling the editing process to avoid invalidating useful patterns and structures expressed by said data cube, and wherein the means for editing forms a modified data cube in which said criterion is satisfied by all the dimension level combinations of the modified data cube.

16. (Previously presented) A system as claimed in Claim 15 wherein said intensity function and said editing are used to rewrite the dimension structure of said data cube in order to express more clearly, to a user of the system, correlations existing in said data cube, such that discovery of hidden relationships expressed by the data cube is enabled.
17. (Currently amended) A computer implemented method for editing a data cube with respect to a normal criterion, the criterion initially satisfied by some but not all dimension level combinations in said data cube, comprising the steps of:
  - providing a dimension structure of the data cube, the dimension structure having dimension levels of data of the data cube;
  - editing the dimension structure of said data cube so that said normal criterion is satisfied by at least one additional dimension level combination;
  - associating with the dimension structure of said data cube, a function revealing intensity of patterns or structures in said data cube; and
  - using said function to direct said editing of said dimension structure, such that the step of editing avoids invalidating useful patterns and structures expressed by said data cube, wherein said step of editing forms a modified data cube in which said criterion is satisfied by all the dimension level combinations of the modified data cube.

18. (Previously presented) The method of Claim 17 further comprising the step of using said function with said editing to rewrite the dimension structure of said data cube in order to express more clearly, to a user, correlations existing in said data cube in a manner enabling users to discover hidden relationships expressed by the data.

***Allowable Subject Matter***

5. Claims 1, 3-18 are allowed over the prior art of record.

***Reasons For Allowance***

6. The following is an examiner's statement of reasons for Allowance:

Regarding Independent claims 1,8,15 and 17, Applicant's particular system and associated method for editing a data cube with respect to a normal criterion, the criterion initially satisfied by some but not all dimension level combinations in the data cube, which includes a dimension structure modeling the data cube, the dimension structure including dimension levels of the data cube and editing the dimension structure of the data cube so that the normal criterion is satisfied by at least one additional dimension level combination in combination with other limitations of the claims, was not disclosed by, would not have been obvious over, nor would have been fairly suggested by the prior art of record.

The dependent claims, being further limiting to the independent claims, definite and enabled by the specification are also allowed.

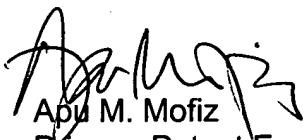
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Points of Contact***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Apu M. Mofiz whose telephone number is (571) 272-4080. The examiner can normally be reached on Monday – Thursday 8:00 A.M. to 4:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached at (571) 272-4146. The fax numbers for the group is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-9600.



Apu M. Mofiz  
Primary Patent Examiner  
Technology Center 2100

August 16, 2006